THE VETERINARY RECORD

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FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

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ARMY PRACTICE.

During the whole of the present year, a comparatively large proportion of our clinical contributions have come from the Army. This was only to be expected, considering the number of our members now in the forces; and a great deal more might well come from the same source. As we pointed out some months ago, our graduates in the army are enjoying exceptional opportunities for clinical observation and experience—opportunities upon a scale which, to some of them, has never been present before and never will be again. Much of their experience will be of great value to those of them who return to civil life; and much of it, therefore, directly interests the civil practioner.

There are branches of military veterinary work which are peculiar to the army. But a great deal of the army veterinary surgeon's practice consists in the treatment of cases quite similar to those met with in civil life, with certain important differences in the conditions of treatment. We need not dwell upon those differences; but it is obvious that many of them—such as amplitude of skilled assistance, availability of proper accommodation and apparatus, and opportunities of frequent examinations of the case—are all in favour of the veterinary surgeon. They greatly facilitate treatment; and they are equally advantageous for study and observation.

Perhaps the most important of all army veterinary work—and its importance and its difficulties alike are greatly augmented in war time—is the prevention of contagious disease. Some civilians who joined the army had already had considerable experience of this; others, though experienced enough in other respects, had had little to do with the preservation of large studs from infection. Opportunities for work along this line have diminished considerably in civil practice of late years; but in the army they have never been so great as to-day. Here again we have a field of army work which directly interests civil practitioners.

Two other points may be noted. Apart altogether from wounds sustained in warfare, there is much more veterinary work to be done amongst army horses in war time than in peace—more accidents, more lameness, and more illness of every kind. Secondly, the military system of keeping records renders it easy to follow the history of a case, and equally easy to report upon it. Altogether, our members in the Army are now enjoying golden opportunities of professional observation. A very little of their experience is being published, and much more ought to be.

LOW RINGBONE.

I am enclosing a couple of snapshots of a cart mare suffering from acute pain from what was diagnosed as low ringbone. In this position she would sit for hours. She had been in this condition for two months before I was asked to see her. I snapshotted her, and she was shot in another manner the next day.

WALTER WESTERN.

Studland House, Bracknell, Nov. 11.

PERVIOUS URACHUS IN FOALS.

I have had over twenty years experience in a district where all kinds of foals are bred, and have seen lots of pervious urachus and joint evil. In pervious urachus I cast the foal, turn it up on its back, and inject about two drachms of Tinct. iod. forcibly into the urachus. I then get a needle and silk, pass the needle through the skin surrounding urachus as a ligament. I then keep plenty of Boric powder made with flour dusted on, and allow the whole lot to slough off. I then inject the foal with Staphylococcus albus, citrus, aureus, (P. D.), 100 million, and they go on all right. Have found the latter very useful in joint evil.

Bicycle Pump in Milk Fever.

When in an Oxfordshire village last week was called to see a cow with milk fever, which she had in a well developed form. I asked what treatment she had, and they said they had blown her udder up with a bicycle pump. I saw the pump: it was an ordinary pump, and was fitted to the valve of the inner tube. Being curious as to its action, I blew up the udder with it myself, and found it to be the best and quickest method I have yet tried. We gave the cow a drench, and she was up next morning. I think it was the pump that did it.

A Difficult Calving.

On Thursday last was called to a cow calving, and found two fore legs and head presented in apparently normal condition. They fixed ropes to head and legs, and six men could not get it away. On examination I found there were two calves presented: No. 1 with head presented and fore legs back; No. 2 with head turned back and fore legs presented, so that the head of No. 1 and legs of No. 2 appeared as if belonging to the same calf. We pulled out the head of No. 1 calf and cut it off; next I removed both fore legs of No. 2 calf at the shoulders. This allowed me to get head of No. 2 forward and deliver the calf. I then got the legs of No. 1, which were flexed at the knees, and delivered the calf. With the exception of retaining the fœtal membranes for two days the cow did well.

J. H. Parker.

Faringdon, Berks.

ABSTRACTS FROM FOREIGN JOURNALS.

The use of Leclainche and Vallée's Serum in Injection Abscesses.

Sometimes, though certainly very rarely, the administration of copious subcutaneous injections of from 200 c.c. to 300 c.c. is followed by the development of voluminous abscesses at the site of injection. When punctured, these abscesses give exit to a grey-white or yellow-white thin fluid pus, which contains different kinds of bacteria. If treated by the ordinary antiseptic measures, they heal very slowly.

Ramon, working at the Pasteur Institute in Paris, has been using the serum which Leclainche and Vallée prepared against pus cocci and coli bacilli for these abscesses, and has obtained excellent results. He has published the method he adopts (*Bullet. de la Soc. Cent. Méd. Vet.*, 1913). He incises the abscess, washes the cavity out with boiled water, and then injects from 30 c.c. to 40 c.c. of the serum into it. He then holds a pad of wadding over the opening for about five minutes, and meanwhile massages the walls of the abscess, so as to ensure that the serum penetrates the cavity as thoroughly as possible.

In horses with these abscesses, when treatment by the ordinary antiseptic means is adopted, the suppuration first of all increases, and then persists for some days. When the serum is used, however, the suppuration ceases very quickly, and the subsequent healing proceeds rapidly.

The effect of the serum depends on the influence of the antibodies contained in it.—(*Berliner Tier Woch.*)

Human and Canine Leishmaniasis in Russian Turkestan.

W. L. Yakimoff has published an article on this question (*Bull. Soc. Path. Exot.*, 1915, July. Vol. 8, No. 7. Pp. 474-503).

The author finds that in Turkestan there appears to be some connection between the number of cases occurring in the dog and in man in the various districts, the percentage of cases in the two species bearing a more or less constant relation to each other.

Of twelve cases of the disease in children in which the author was especially interested seven were in close contact with dogs, one with a cat, in one dogs were in the neighbourhood of the child, but there was no actual contact, and in three there were no dogs in the house.

In smears of the intestinal contents of a flea caught on the cat the author has found organisms in the post-flagellate phase similar to those noted by Basile, Sangiorgi, and others, and in *Ctenocephalus canis* he has found parasites indistinguishable from leishmania.

The parasite occurring in Turkestan is indistinguishable from the Indian and Mediterranean parasites, and, like those, it may be either free or enclosed in cells of various kinds. On one occasion in a child the author found a leishmania in a red corpuscle.

An observation made in 1912 on material obtained from Tunis, but not published, has been confirmed in Turkestan, namely, that forms suggesting, if not representing, schizogony may be found both free and enclosed in cells, in smears made from the spleen in severe cases.

The author has been able to infect mice from children, and to infect dogs and cats from such mice.

With regard to the question as to the identity or otherwise of the disease caused by parasites of this genus in the various countries, the opinion is expressed that they are all identical, and that the dis-

eases of man and the dog are also the same. In consequence of this dogs may play an important part in the transmission of the disease, and contact with dogs is always a source of danger to man.

Material has been obtained from about 1000 dogs, and examination shows that practically 24 per cent. are infected, and it appears to be established that the disease in dogs shows a seasonal variation, the number of fresh infections increasing during the early part of the summer.

An account is given of the clinical characteristics of the disease in dogs, but the author expresses the view that in the majority of cases no special symptoms are seen. It was found experimentally that the disease may last for three years or more.

The most constant lesions were enlargement of the spleen and red coloration of the bone marrow, but both of these lesions are not observed in every case, and enlargement of the spleen alone is not very significant.—((*Tropical Vet. Bulletin*).

The Period of Incubation in Animals infected with Leishmania.

W. L. Yakimoff publishes a contribution to this question (*Bull. Soc. Path. Exot.*, 1915, July. Vol. 8, No. 7. Pp. 430-431). Summarising briefly the statements published by various observers, the author shows that in dogs the period of incubation after experimental infection is generally about 12 days, and that in mice the period may be very short.

A dog of about two months old was inoculated intraperitoneally with an emulsion of the organs of another dog which had been infected with a human strain of the parasite which had been used to infect mice successfully. The material used was very rich in parasites. On the third day the dog died. The serous membrane of the small intestine was very congested, and parasites were found in small numbers in smears from the liver and the spleen. The bone marrow appeared to be free from parasites.

It is suggested that the short period of incubation in this case may have depended to some extent upon the number of parasites injected, the age of the animal inoculated, and the origin of the virus. —(*Tropical Vet. Bulletin*).

W. R. C.

Report of the Veterinary Bacteriologist, Southern Rhodesia, for the Year 1914.

[Abridged.]

"The routine work of the laboratory has considerably increased during the year. In addition to the examination of a greater number of smears than in previous years, the application of the agglutination test for the detection of contagious abortion, the recognition of parasites and morbid specimens, and the recording of observations in connection with animals suffering from trypanosomiasis and anaplasmosis, have added to the work of the staff. Some experiments have been carried out in connection with the insect and tick transmission of diseases. This is a very important branch of veterinary research, for which fly-proof accomodation is urgently needed. Material from six cases suspected to be suffering from rabies has been tested and proved negative.

East Coast Fever. The number of preparations sent for diagnosis has been less than in previous years, probably as the result of the recent methods of combating the disease by systematic dipping. The very puzzling features occurring in connection with the incidence of this disease, and the unusual symptoms presented by animals in herds regularly dipped render a laboratory investigation desirable.

The Plasmoses of Cattle have continued to cause enormous losses to stockowners through the serious shortage of bulls, the heavy mortality of young animals, more especially of grade stock, and the anæmia and consequent loss of size, vigour and maturity in all bovine animals directly or indirectly due to these diseases. The indigenous cattle of the country, while comparatively resistant to the plasmoses, are small and slow to mature, and these defects can only be remedied by mating with bulls of improved types. It has been estimated by the Chief of the Animal Industries Branch that at the present time 500 stud bulls are urgently required for this purpose. But the mortality of cattle introduced from overseas for this purpose has been so great as to render importation an extremely hazardous and costly proceeding.

Attempts have been made in the past to elaborate a method of immunising such stock against these diseases, with varying degrees of success. In 1911 Sir Arnold Theiler established a method which, while successful in the Union, was less efficient in this country, and its use had to be discontinued. Our own attenuated virus was then used with partial success, but last year it became exalted in virulence, and had to be discarded. With the discovery of the principles of systematic dipping, it was hoped that the danger of natural infection might be overcome, but it was soon apparent that animals bred on dipped areas, when removed to tick-infested veld, contracted redwater, and frequently died from it. So that, until systematic dipping is universal, its practice is attended by marked disadvantages, in limiting the movement of stock born on clean areas. But although redwater yields readily to regular dipping, anaplasmosis is not so easily eliminated. To confirm practical observations, certain experiments were conducted. Blood was taken from cattle which had been running for different periods on certain dipped areas, and was inoculated into cattle newly arrived from Great Britain, in which it produced no piroplasmosis, but a marked anaplasmosis re-action. In one instance blood from a nine months old heifer, born and running since birth on an area where five-day dipping has been practised under Government supervision for as long as five years, caused no redwater, but gave rise to a severe anaplasmosis, from which the inoculated animal died. It would appear, therefore, that under existing conditions the ideal method of dealing with these diseases is to supplement regular dipping with a simple and safe method of protective inoculation. To obtain such a method, a series of experiments was conducted on twelve Shorthorn heifers imported from Great Britain for the purpose. A first series of experiments was undertaken to discover a specific therapeutic agent against anaplasmosis, comparable in effect to trypan blue in the treatment of piroplasmosis, but, although numerous tests were made with drugs and sera, no success was achieved. A second series of experiments was conducted to discover and test various strains of virus which would give rise to a mild form of plasmoses within the limits of safety, followed by a marked degree of immunity or tolerance. The imported Shorthorn heifers were used for the purpose. Fortunately, with the first attempt, a very favourable virus was obtained, and six of the experimental animals upon which it was used suffered from mild reactions from which they recovered. This virus and modifications of it are now being tested on the remainder of the consignment, and if the favour-

able results are continued, it is hoped that within the near future the inoculation of imported stock may be undertaken with better results than hitherto. But it must be pointed out that the mild course of the disease artificially produced to a large extent depends upon a satisfactory and hygienic stabling and accommodotion during the course of the reactions, and until this is provided, the inoculation of imported stock on a large scale cannot be attempted.

Trypanosomiasis. It has been estimated that some ten million acres of valuable territory in Southern Rhodesia are rendered unsuitable for stock by reason of the presence or the menace of tsetse fly (*G. morsitans*). During recent years this has shown a marked increase in numbers and distribution, and a tendency to establish itself in the areas from which it disappeared at the time of the rinderpest. Until 1913 the only trypanosome known to be transmitted by it in this country was one of comparatively low virulence, and belonging to the group named by Bruce *T. pecorum*; but in that year trypanosomes, indistinguishable from the *T. brucei v. rhodesiense* of Northern Rhodesia, were found in man and animals in the Sebungwe district. This parasite, which gives rise to a very much more acute infection than the *T. pecorum*, is, in certain circumstances, actually pathogenic to man, and is entirely resistant to treatment. Recently it has been shown to have a much wider distribution than was at first recognised, and there is a grave risk that, with the increase of *glossina*, it may become a serious danger throughout the fly areas.

Contagious Abortion. In November, 1913, information was given that a herd of cattle, at that time in quarantine on the Zambesi, were suffering from contagious abortion, and, on the arrival of these animals at Sipolilo, blood was taken from certain suspicious cases and was tested at the laboratory, with the result that it was found that four animals gave a marked positive reaction to the agglutination test. The matter being of such importance, the greatest care was taken in the performance of the test, for which three distinct strains of contagious abortion culture were used, namely:—

(1) strain from the Pathological Laboratory of the Royal Veterinary College, London;

(2) strain from the Nairobi Laboratory, British East Africa;

(3) strain from the Onderstepoorte Laboratory (South African strain).

It is of interest to note that the reactions with each strain closely corresponded, indicating that the specific contagious abortion of those countries, namely, Great Britain, British East Africa, Union of South Africa, and Rhodesia, are identical. Samples of the same blood were sent to Sir John M'Fadyean, of the Royal Veterinary College, London, who was able to confirm the diagnosis.

About the same time cases of abortion occurred among the cattle on the farm Gatsi, Marandellas, and on the application of the test these were found to be due to the *B. abortus*. Recent investigation into this outbreak suggests that the disease originated some five years ago from an imported Devon bull, which was sold to a farmer in the Marandellas district, with the result that the disease became so prevalent in his herd that he was eventually compelled to sell his stock and farm. The dispersal of infected animals has led to the dissemination of the disease throughout the district, but at the present time the outbreaks are apparently of a less serious character than hitherto.

The fact that in this country, especially among native herds, there is a well-marked calving period, explains the fact that outbreaks of abortion have occurred at certain times; and since females who have aborted tend to lose the infection if they remain barren for a period of five months, it is possible that a considerable number of infected animals will have become clean before the period of service again arrives. Experiments were conducted having a bearing upon the best means of dealing with the disease under the peculiar local circumstances. The principle of systematic dipping having been widely adopted in connection with other diseases, it was desired to ascertain whether the constituents of the five-day dip exerted any harmful influence on the *B. abortus*, for if so, the dipping of stock would tend to eliminate the disease by disinfecting the contaminated animals, but if not, the passage of such animals through the common dip would lead to the pollution of the dipping fluid and the possible infection of all susceptible animals passing through it.

The laboratory tests indicated that Cooper's Improved Dip, in strength suitable for five-day dipping, was rapidly harmful to the abortion organism, and the principle of systematic dipping in this fluid has been adopted as one of the measures to be employed in dealing with outbreaks of this disease. Experiments are now in hand with a view to preparing a vaccine for protective inoculation. The methods suggested by Stockman involve the use of a living culture of the organism, a process not free from the danger of transmitting infection, and not altogether desirable in a country where it is hoped the disease does not prevail to any serious extent.

A recent report by Buxton has drawn attention to the beneficial results from the use of dead cultures, which would involve considerably less risk. Tests are, therefore, being carried out to determine the relative merits of the two processes.

Horse Sickness. Although no figures are available showing the mortality of horses and mules during the past season, it is probable that it was not less than in 1911, when approximately £30,000 worth of equines died from this disease. Unfortunately Sir Arnold Theiler's serum for the inoculation of mules could not be procured during the past year, and his more recent method of inoculating horses was also withdrawn.

The experiments made at this laboratory prior to March, 1913, were taken up again in November, and two horses have been supplied for the purpose. The records collected of the horses previously inoculated are very satisfactory. Of the seventeen treated animals which were sold, only thirteen can be traced. Three of these are known to have died, but the remaining ten are still alive, although exposed in dangerous districts.

Sheep Diseases. Although it is estimated that there are in this country some 300,000 sheep, these are of a very inferior type, supplying very little mutton or wool.

The Acting Chief Veterinary Surgeon estimates that £70,000 worth of sheep are annually imported for consumption. It is a matter for regret that so little can be done to investigate the numerous diseases which bring about this unfortunate state of affairs, for it is felt that if these could be overcome, Rhodesia might in time rival many of the great sheep-producing countries of the world.

Lamziekte. The announcement in the lay press that Professor Hedinger, working in Sir Arnold Theiler's laboratory, had found this disease to be due to sarcosporidia, caused considerable uneasiness, as the parasites had previously been seen in the muscles of sheep and cattle in this country, where up to the present no cases of undoubted lamziekte have been observed. The officers of the Veterinary department having been circularised, preparations have been forwarded from stock in their various districts, and smears containing sarcosporidia have been received from the British South African Company's cattle on the farms Dunrobin and Netherburn in the Lalapanzi district, and from an ox from Tsessebe slaughtered at Buluwayo.

The accommodation at the present station is inadequate; a proper laboratory, with store-rooms, stabling, and grazing, is urgently required. Under existing conditions, investigation into infective diseases involves serious risks, and the inoculation of imported stock cannot be undertaken. Provision is also necessary for the destruction of carcases and infective materials, and for the housing of the native staff.

LL. E. W. BEVAN.

The Microbic Infection met with in Wounds.

The following passage occurs in the lecture on "Wound Infections and their Treatment," by Colonel Sir Almroth E. Wright, M.D., F.R.S., C.B., at the Royal Society of Medicine, Oct. 8th to 14th.

"We now pass to consider very briefly the nature of the microbes which are carried into wounds from the soiled skin and clothing of the soldier. These microbes may, as I pointed out in a previous lecture, be classified—and the classification is important for treatment as well as for the understanding of the mode of infection and of the evolution of the wound—into two main classes, a class of *serophytes* which (presumably because they find ready-made pabulum in the blood fluids) can live and multiply in serum; and a class of *sero-saprophytes* which, so far as we know, can develop in the blood fluids only after these have lost their antitryptic property—the property in question being that which inhibits those digestive processes which would be capable of converting the native albumens of the serum into pabulum for microbes. Intermediate in character between the serophytes and sero-saprophytes is a class of microbes which cannot grow in the serum when we make only a small implantation, but which, no doubt owing to the fact that they bring into operation powerful digestive ferments, succeed in establishing themselves when we make a heavy implantation. We may call these *imperfect* or *secondary serophytes*.

To the category of *serophytes* belong the streptococcus and the staphylococcus—the latter being far inferior to the former with respect to its power of multiplying in unaltered serum. To the category of *imperfect serophytes* belong the bacillus aerogenes capsulatus of Welch (bacillus perfringens); the bacillus proteus; its close congener, the bacillus pyocyaneus; and the wisp-shaped diphtheroid bacillus commonly found in foul suppurating wounds.

To the class of *sero-saprophytes* belong the larger number of microbes found in such wounds.

It will suffice here to bring out a few of the more important points in connexion with the serophytes and imperfect serophytes which are found in wounds.

The microbe most universally present is a streptococcus. It differs in very many respects from the classical *streptococcus pyogenes*, which is met with, though much more rarely, in wounds. In film preparations of pus the streptococcus here in question shows up nearly always as a diplococcus. As obtained from agar and broth cultures, the elements of the diplococcus are lancet-shaped, and they are bent into an angle. To follow the French description, they resemble a circumflex accent or take the form of saddle-bags (*formes en besace*). In broth cultures we have interspersed with these a few short chains. The colonies as they grow upon agar are more opaque, less sharply margined, and somewhat larger than those of the streptococcus pyogenes. Instead of being as colourless as glass and severely discrete, they show up as very faintly grey-green, and, when planted closely, tend to run together. As compared with the ordinary streptococcus pyogenes, growth is also much more rapid—luxuriant cultures being obtained at 37° C. on broth and agar in four or five hours. Moreover, growth is obtained, not only at 37° C. but also at the temperature of the laboratory bench.

The most remarkable characteristic of this streptococcus is, however, the freedom with which it grows out in normal serum, and also upon agar when transplanted in blood. When we implant into blood in emigration tubes, putting the tubes directly into the centrifuge, and from this into the incubator, we obtain after three to five hours with a moderate implantation a growth in the form of diplococci and short chains permeating the whole white clot; or, with very light implantation, a growth in the form of colonies clearly visible to the naked eye and consisting of typical convoluted chains made up of indefinitely numerous elements. In the case where we implant into blood and then implant the blood culture on agar, we have very opaque white convex colonies which may be as much as half, or even one, centimetre in diameter; and which, except for the fact that they are rather moister, closely resemble staphylococcus colonies. These are made up of lancet-shaped diplococci which might easily be taken for pneumococci. The surrounding blood is not hæmolysed.

There will be no doubt in the mind of anyone who has studied descriptions and illustrations of the *enterococcus* and its mode of growth on ordinary media as given in French bacteriological text-books that the streptococcus here in question is the enterococcus of the French authors. Moreover, it may be taken as assured—for we have compared our cultures of streptococci from wounds with a series of cultures of streptococci obtained by Professor Dreyer and his colleagues from the stools of patients who were being searched in the ordinary way for typhoid and paratyphoid bacilli—that the streptococcus we are here considering is the ordinary streptococcus of the fæces. And assurance is made still more complete by the fact that when searching normal fæces by the *fæco-sero-culture method* my fellow worker, Lieutenant A. C. Inman, invariably obtained from the fæces in his after-washes a pure culture of a streptococcus which was, in all the above-mentioned morphological and biological characters, indistinguishable from that which is practically invariably present in the wounds. We may therefore take it as unquestionable that the streptococcus which is commonest in wounds is of fæcal derivation, and both our *fæco-* and *pyo-sero cultures* show that if the smallest possible implantation of this microbe is made, in no matter what bacterial admixture, into serum, it will immediately grow out there.

With regard to the presence of staphylococcus in wounds, it may be pointed out that, by reason of its wide distribution in the skin and its serophytic properties, it is bound to be present in practically all wounds. We shall, however, presently, in discussing the results of our pyo-sero cultures, appreciate that its growth in the wound is very quickly restricted by changes in the blood fluids (and with these there may possibly be associated also changes in the leucocytes) which are produced by the immunising responses of the patient.—*The Lancet.*

Bovine Actinomycosis.

Numerous imported ox tongues have been found to be affected with actinomycosis, and the pathological laboratory of the Local Government Board have been conducting anatomical and microscopical research into the characters of the lesions in the lymphatic glands of the lingual region. A Preliminary Report on the Pathology of Bovine Actinomycosis, by Frederick Griffiths, M.B., Vict., has been published (Wyman & Sons, price 2d.) The material was furnished by 46 tongues from Argentina, 2 from North America, and 2 from Siberia, whilst 44 fresh specimens from animals slaughtered in this

country were examined. The lesions in the 50 imported specimens have been compared with those in the 44 derived from this country. Numerous attempts to obtain from the imported tongues the causal organism in culture from the lymphatic gland lesions were unsuccessful. Inoculations with emulsion of diseased tissue in experimental animals did not produce actinomycotic lesions. In one case in a calf the disease seems to have been communicated by subcutaneous inoculation of cultures obtained from the home material. All the imported specimens contained specific granules in the lesions which would not stain by the Gram method, and in 23 of the British cases this fact was also observed. In four of the British cases specific granules staining by Gram were met with, and the histological features and anatomical distribution of the disease corresponded with that described by Lignières and Spitz in 1902 in Argentina cattle. The bacillus obtained had the characters of the actinobacillus. The investigator concludes that actinobacillosis is widespread in the world and forms a considerable proportion of the cases of disease in oxen known as actinomycosis. The investigations were curtailed owing to the war, and the biological properties of the organisms have yet to be studied. The transmission of actinobacillosis from animals to man has not yet been established, and there are no recorded cases of suspected transmission, although there is some evidence to show that the disease may be transferred to cattle, cats, and dogs by inoculation.

Parliamentary.

In the House of Commons on Tuesday, Nov. 2.

Mr. Currie asked whether the Treasury had suggested to the Veterinary Colleges in Edinburgh and Glasgow that amalgamation was desirable in the interests of of economy, and the amount of the Government Grants given to these Colleges.

Mr. McKenna in reply stated that the Board of Agriculture for Scotland were invited on July 3rd and 28th to consider the question of securing economies generally, whether by amalgamation of institutions, or otherwise, at the various Colleges aided by them, they had been in communication with the Colleges, and the Treasury were now awaiting their final recommendations on the subject. The grants to the Scottish Veterinary Colleges are limited to a maximum of £800 a year for the two Colleges together.

Mr. Watt (Glasgow): May we assume that after the amalgamation it is the Edinburgh College that will go out of sight?

Mr. Hogge (Edinburgh): Oh, no. (Laughter).

Thursday, November 11th.

Colonel Stavely Hill:—To ask the Under-Secretary of State for War whether veterinary officers of the Territorial Force holding lieutenants' commissions will, at the expiration of twelve months' service, be promoted to the rank of temporary captain in the same way as veterinary officers in the new armies are now promoted.

Mr. Tennant:—I have some hope that this may be possible, but I eannot give any pledge.

In answer to a question by Mr. W. Thorne concerning Mr. T. Dunlop Young's absence from his profession duties at the London Central Meat Market:—

Mr. Forster: The gentleman referred to in the latter part of the hon. member's question was an officer in the Territorial Force Army Veterinary Corps, who was called up on mobilisation, and until recently did duty with Territorial unit. He has now been transferred at his own request to the Remount Depot at Woolwich, where he is engaged on most important work, and it is not proposed to move him.

Foot-and-Mouth Disease.

In answer to Sir J. Spear (Tavistock, U.), Mr. Acland (Cornwall, Camborne, L.), said:—Since my reply to the hon. member of the 9th inst., there have been in Somerset five additional outbreaks confirmed, bringing the total up to 39. Until yesterday the further spread of the disease had been confined to the district immediately to the east of the city of Bath, along the banks of the Avon. The latest outbreak is, however, I regret to say, in an entirely new district of Somerset, some four miles south-east of Glastonbury, and its occurrence has necessitated the imposition of restrictions over a wider area. Apart from this outbreak, the position in and around Bath is becoming more satisfactory, and the outbreak is being got under; and there is no reason at present to anticipate any very serious spread of the disease in the neighbourhood of Bristol.

Glasgow Veterinary College (Incorporated).

A meeting of the Board of Governors of the Glasgow Veterinary College was held within the Secretary's chambers, 105 St. Vincent Street, Glasgow, on Wednesday, 10 inst., when there were present Sir Hugh Shaw Stewart, Bart. (in the chair), and Messrs. Hugh Begg, Walter W. Blackie, James Cameron, Walter C. B. Christie, Alexander Cross, James Johnstone, J. Campbell Murray, Alexander Park, John Pollock, William Strang, and Alexander Russell, the Secretary. The Chairman intimated apologies for absence from Sir Simon Macdonald Lockhart, Bart., M.V.O., Sir David C. M'Vail, and Messrs. Horatio R. B. Peile and James Rodger.

The Chairman, in opening the meeting, stated that he was sure the Governors would desire to place on record the great regret with which they had learned of the death of Principal M'Call. The Principal had been ill for some time previous, and he had attained a very ripe age, but his loss was none the less greatly felt on that account, for up to the time of taking to his bed his faculties were unimpaired, and he was taking full interest in the affairs of the College, with which he had been connected for nearly fifty years. He was sure the Governors would wish it placed on record in the minutes that they greatly regretted the loss, and had a very high opinion of the services which he had rendered to the cause of veterinary science in general, and particularly in the West of Scotland, and that an excerpt from the minutes should be sent to the widow and members of the Principal's family.

Mr. Campbell Murray, Vice-Chairman of the Board of Governors, in seconding the Chairman's motion, stated that not Scotland only, but the whole nation, had sustained a very serious loss. Principal M'Call had laid the foundation of the College firm and sure, and his example would be an incentive to them in the future.

A Roll of Honour of the lecturers, graduates, students and employees of the College serving with His Majesty's forces was submitted to the meeting and approved of, and it was agreed to have it hung in a suitable place in the College.

The Secretary reported that Mr. Alexander Cross had been re-elected representative of the Highland and Agricultural Society on the Board of Governors, and Mr. Peter Reid representative of the County Council of Argyll.—*The Scottish Farmer.*

For causing three calves to be slaughtered in contravention of the Maintenance of Live Stock Order, 1915, Archibald Holdstock, wholesale butcher, was fined £10 at Reading Police Court. It was stated that this was the first conviction in the United Kingdom under the Order.

ARMY VETERINARY SERVICE

WAR OFFICE, LONDON, S.W.

Extract from *London Gazette*,

WAR OFFICE, WHITEHALL, Nov. 12.

REGULAR FORCES. ARMY VETERINARY CORPS.

Major A. G. Todd to be temp. Lt.-Col. whilst holding the appmnt. of Dep. Director of Veterinary Services, dated Nov. 7.

Capt. W. N. Rowston to be temp. Major whilst holding the appmnt. of Asst. Director of Veterinary Services, dated Sept. 13.

Temp. Lieuts. to be temp. Captains:—F. G. Sikes, dated Oct. 8. A. Conisbee (Oct. 16.) R. Scott (Oct. 30.) H. Mitton (Oct. 31.) C. A, Hutton, F. Crowhurst (Nov. 2.)

To be temp. Lieut.:—R. C. Moore, dated Nov. 1.

To be temp. Qmr. with hon. rank of Lieut.:—H. Barrs, dated Nov. 9.

Nov. 15.

To be temp. Lieuts.:—T. H. Kellett, dated Nov. 1. W. B. MacFadzean (Nov. 2).

Nov. 16.

Temp. Lieuts. to be temp. Capts.:—M. P. Hatch, dated Nov. 1. F. G. Buxton (Nov. 5.)

To be temp. Lieuts.:—G. Wacher, dated Nov. 1. C. H. Sheather, F.R.C.V.S. (Nov. 3). G. M. Yardley (Nov. 5.)

Nov. 17.

Temp. Lieuts. to be temp. Capts:—D. G. Davies, dated Oct. 11. J. Richardson (Oct. 26.)

To be temp. Lieuts.:—G. Gordon, dated Nov. 1. Z. B. Rutherford (Nov. 3.)

To be temp. Qmr. with hon. rank of Lieut.:—H. Lloyd, dated Nov. 9.

Nov. 18.

Capt. A. B. Myhill, from S. African Vety. Corps, to be temp. Capt., dated Nov. 19.

TERRITORIAL FORCE. ARMY VETERINARY CORPS.

Nov. 16.

Lieut. W. Clarke is removed from the T.F. for absence without leave, dated Nov. 17.

The following casualties are reported:—

WOUNDED—Pte. R. Betteridge, 2846; Pte. S. Livermore, 7057; Pte. M. Rippingill, 1993.

Lieut. J. R. GREEN, F.R.C.V.S., A.V.C., 2/1 South Nottinghamshire Hussars, has recently been notified by the War Office of the death of his son, Sergt. Harry Green, 4th Battn. Leicester Regt., who was killed in action before the Hohenzollern Redoubt on Oct. 15th. The deceased was in his 22nd year.

Mr. J. G. PARR, of Leicester, writes us: "I received a post card on Nov. 13 from my son, Capt. F. S. Parr, saying he was wounded and a prisoner, but was being well looked after. The post card was dated Oct. 18, '15 five days after the charge."

It was announced in ours of Nov. 6 that Capt. Parr had been killed in action, leading the charge on the Hohenzollern Redoubt.

Army Veterinary Surgeons.

To the Editor of the Times.

Sir,—I venture to send you part of a letter received by me from a veterinary surgeon serving at the present time in the Territorial Force. I hope you will be so good as to publish it, as it shows the grievances under which these officers are suffering. Mr. Tennant promised last summer that the question as to their promotion should be studied; but, when asked last Tuesday, October 19, whether the question were now settled, he again replied that the matter was being considered. In the interests of the officers in question, there appears to be no course open but to make their grievances public through the press. I understand that the Army is short of veterinary surgeons, and do not wonder under existing conditions.—Your obedient servant,

F. A. NEWDEGATE.

House of Commons.

At the beginning of the war veterinary officers who offered their services were granted commissions either through the War Office or through an Assistant Director of Veterinary Services, Territorial Force. In the former case officers were allowed to take their commissions for one year only, but in the latter the period of the commission was apparently for three years, thus committing themselves for a much longer period. After some time, in order to obtain more officers, the War Office offered a bonus of 62 days' pay for each year of service to those taking temporary commissions under them, and now, in order to hold their officers, they are granting promotion to captain's rank after the end of the year's service.

The position is that those who joined at the same time, except that they bound themselves for three years instead of for one year, and happened to be gazetted through a Territorial Force officer instead of the War Office, are still lieutenants, and the others are captains. Therefore it arises that an officer who joined through the Territorial Force officer on August 4, 1914, is now a lieutenant and bound for three years, whereas an officer who joined on October 4, 1914, but through the War Office, and for one year only, is now a captain if he has chosen to renew his commission. It is also a fact that men who graduated in July, 1914, and joined for one year through the War Office, are now captains, and men with from 15 to 20 years' experience, joining through the Territorial Force officer, are lieutenants. Those officers of the Territorial Force and Special Reserve who were gazetted in the Territorial Force previous to the war, speaking generally, remain lieutenants until they have done five years' service, so that these officers are in very many cases lieutenants still. The position in their case is very galling, but perhaps not quite so fatuous as in the case of those who joined after the outbreak of the war, it being purely a matter of chance how they were recruited.

In the R.A.M.C. all officers receive promotion after six months' service, because it is felt that as junior officers they suffer after making heavy sacrifices; this applies also to A.V.C. officers, and in both cases they join as experts and require no training before being efficient.

Personal.

MCINTYRE—MITFORD. On 9th Nov. at St. Peter's Ickburgh, Norfolk, Capt. Gordon McIntyre, A.V.C.T., attached to the 1st E.A. Brigade of the R.F.A., eldest son of the late W. T. McIntyre, of Glasgow, to Margaret Constance Forrester, only daughter of the Rev. W. L. Mitford and granddaughter of the late E. L. Osbaldeston Mitford, of Mitford, Northumberland, and Hunmanby, Yorkshire.

Mr. A. M. TROTTER has been appointed *ad interim* to the late Professor M'Call's municipal posts.

OBITUARY

Lt.-Col. JOHN R. D. BEECH, C.M.G., D.S.O., M.R.C.V.S. Graduated, Edin.: April, 1881.

Lt.-Col. Beech died at Louth while commanding the 2/1st Regiment of the Scottish Horse. He entered the Army as a *veterinary surgeon*, and served through the Egyptian War of 1880 and 1881. He then joined the Gordon Relief Expedition, and later, went to Abyssinia with Sir Gerald Portal, and carried the Queen's letter to King John of Abyssinia. Owing to the illness of Sir Gerald Portal he went alone on this dangerous expedition, and for this service was awarded the C.M.G. He was also granted a combatant commission in the 20th Hussars, and King Edward (then Prince of Wales) recommending him for an antidate of seven years, he received his captaincy. He was the only man who received the seven-clasp medal in the Egyptian campaign In two of the biggest battles he was in command of the Egyptian Cavalry, which he led to victory at the age of 25 years. He was awarded the D.S.O. for gallantry at the Battle of Toski. He also received the Osmanieh and the Medjidieh orders and the Khedive's Star, and was four times recommended for the V.C. He married and retired from the Army, but joined again for the South African War, serving on Sir John French's Staff, and receiving the medal with five clasps. Colonel Beech commanded the 2nd Regiment of Scottish Horse from 1904 to 1913, and on the outbreak of the present war given command of the 2/1st Regiment Scottish Horse. The funeral took place at Innerwick, Glenlyon, on Wednesday, Nov. 10.

JOHN JACKSON BELL, M.R.C.V.S., Lonsdale St., Carlisle. H. & A.S., 1858. Edin.: Nov., 1879.

"We record with much regret the death of Mr. J. J. Bell, at his residence in Lonsdale Street, Carlisle, on Saturday, 13th inst. Mr. Bell, who was in his 82nd year, had been in feeble health for two or three years, but, with his high spirit, he kept moving about almost to the last.

Mr. Bell was a man of boundless energy, and for more than half a century took a conspicuous part in the local life of Carlisle and the district round it. His firm were the leading veterinary surgeons in the large agricultural district of which Carlisle is the capital. Mr. Bell was for a long period closely identified with the Carlisle Volunteer Fire Brigade, latterly in the capacity of captain; he was a director of the Carlisle Racecourse Company: he was a director and for some years Chairman of the Carlisle Old Brewery Company and other undertakings; he was Vice-Chairman of the Council of the Cumberland Agricultural Society and a marshal of its shows. He established the Carlisle Christmas Dinners for the Poor, and practically "ran" that charity single-handed for over twenty years; and, a keen Conservative, he was in the thick of every political fight in Carlisle and the East and North Cumberland divisions. Few men have crowded more—or so much—effort into their lives. His vitality was indeed amazing: even in the last few months, when bodily infirmity made it difficult for him to get about, his mind was alert, and he kept in close touch with private and public affairs. He was the son of the late Mr. James Bell, auctioneer, Warwick. When 13 years of age he went to serve his articles with the late Mr. Joseph Carlisle, V.S., Carlisle, who had his veterinary establishment in the Royal Hotel yard in Lowther Street, close to the present site of Bank Street, which was then merely a flagged lane.

Qualified in 1859, he went into partnership with his late employer, the partnership lasting about 46 years, until Mr. Carlisle's death in 1905, at the patriarchal age of 96. For years before his retirement he was joined in his practice as a veterinary surgeon by his eldest son, Mr. James G. Bell.

The interment was at Carlisle Cemetery on Tuesday morning. The veterinary profession was represented by Mr. R. Craig Robinson and Mr. J. W. Hewson."—*The Cumberland News.*

JAMES EDMUND HARDIE, St. Saviour's Gate, York. N. Edin.: Dec., 1895.

Mr. Hardie died on Oct. 30th, aged 41.

JOHN RUSSELL, V.S. (Existing Practitioner), Minshull Street, Manchester, died on Nov. 14th, aged 79.

Mr. JAMES SINCLAIR, for many years editor of the *Live Stock Journal*, died at his residence in London on Friday evening, 5th inst., after a brief illness. He began journalism on a Scottish provincial paper, *The Banffshire Journal:* subsequently he was sub-editor to the late Mr. James Macdonald on *The Farmers' Gazette*, Dublin, and the two men collaborated in producing the "History of the Aberdeen-Angus breed," and the "History of Hereford Cattle." Later, Mr. Macdonald became editor of *The Live Stock Journal*, with Mr. Sinclair as sub-editor, and early in 1886, when Mr. Macdonald retired, Mr. Sinclair became acting editor.

CHAUFFEURS AS BOARD INSPECTORS.

In these times we hear a lot about economy being practised on every side, and there is great need for it. It is very annoying to see the unnecessary expense that is incurred in many Government departments. Only the other day I was told of a case where a Board Inspector went into a neighbouring practitioner's district to examine a pig that had died and was reported by the paid practitioner, and I was much surprised to know that the chauffeur made the post-mortem while the Inspector looked on. Of course, I may be mistaken, but I was always under the impression that the Board were most particular in that the Inspector did the work himself.

Now, surely the local veterinary surgeon could just as well act for the Board and thus save the Government much in the year that goes in mileage, and not trouble such an Inspector to come into his practice.

Part-time Inspectors we know very well are often mean enough to make use of this introduction to their brother practitioner's clients, and then their *so-called* professional etiquette vanishes.

This half-time system is most unfair to the majority of the members of the profession, and I am positive that if the Board took veterinary surgeons on the whole more into their confidence and allowed each vet. to work his own district, or, on the other hand, put on whole-time Inspectors, the work would be carried out quite as satisfactory and at half the cost. At a time such as this is, when our country wants every penny she can get, it behoves all who can to denounce every form of extravagance.

"COUNTRY VET."

Hog Cholera.

[The following extracts are from the Report of the Veterinary Director-General for Canada, Dr. F. Torrance, B.A., D.V.S., for the year 1914].

The losses occasioned by this disease in 1913 have been surpassed by the year 1914, and I regret to report that in the Dominion some 9900 hogs were slaughtered as diseased or in contact with the disease, at a cost of $61,588.44 in compensation. These figures are much higher than we could wish, but their loss must be looked upon as the price we have to pay for keeping the rest of our hogs healtby, and as the hog population of

Canada is approximately 8,000,000, the loss of even ten thousand is not high.

The policy of slaughter of all affected herds has been pursued as before, and as a proof of its efficiency we may cite the fact that the disease rarely breaks out a second time on premises where it has been extirpated. The vast majority of the outbreaks occur on premises where the disease was previously unknown, showing the possibility of entirely eradicating the disease if fresh sources of infection could be controlled.

The feeding of uncooked garbage to hogs continues to be, in many cases, the cause of the initial outbreak. From this starting point the disease quickly spreads to adjoining premises, and may attain large dimensions before it has been brought under control. The neglect of owners to notify the department of the existence of the disease is the chief reason for this, and arises generally from ignorance of the proper course to pursue when hogs are first noticed to be sick. In some cases, however, there is reason to think that owners are loath to report cases of disease for fear of the loss they may be called upon to sustain if hog cholera is found to exist and their herd is destroyed. A more liberal valuation of hogs slaughtered would tend to remove this objection on the part of owners to promptly report suspicious cases, and in my opinion would save the department more than it would cost, besides removing a cause of dissatisfaction with our policy.

As some criticism has appeared from time to time directed against our system of dealing with this disease by slaughtering affected animals as well as those in contact with them, and advocating the methods used in the United States some explanation of our reasons for preferring our present system will be in order.

In dealing with hog cholera by immunization, two methods may be used. The serum alone method consists in injecting into the hog it is desired to protect a dose of serum, obtained from the blood of another hog which has been artificially rendered exceedingly resistant to the disease. Such a hog is known as a hyper-immune and a dose of its serum injected into a susceptible hog will render it also immune to hog cholera. The immunity conferred in this way is, however, of short duration, and disappears after a time, leaving the hog as ready to contract the disease as before.

In order to obtain a lasting immunity, the simultaneous or double system is adopted. This involves the injection of virulent or highly infective blood at the same time that the protective serum is injected. When the dose of each is properly proportioned to the weight of the hog, and the serum and virus are both of requisite strength, a degree of immunity is produced that lasts much longer than when serum alone is used.

If it were practicable to thus render all the hogs in a country immune, there is no doubt that the disease could in that way be controlled, but it would have to be continued indefinitely, for the immunity of the sow is not conferred on its young, and these would die of the disease unless also immunized. In order to obtain the necessary serum and virus the disease must be kept alive in the laboratories where these agents are prepared, and consequently the country adopting this method will always have the disease. The experience of such countries shows that instead of controlling the disease, immunization methods tend to render it more widespread. Active virus has been sent out from laboratories directly to farmer with instructions how to use it; the accompanying serum has failed to give the protection expected, and fresh outbreaks have occurred. Even when the necessary immunity has been produced the danger is not over. The immunized hog, while protected against the disease itself, harbours the germs for an unknown period, and, if brought into contact with susceptible hogs, is capable of communicating the disease.

I am convinced that the simultaneous method of immunization has done more to spread hog cholera in the United States than any other agent, and although our losses from this disease are heavy, I believe they would be still heavier under that system.

From report by A. E. MOORE, D.V.S., *Chief Travelling Inspector. (Appendix No. 3.)*

"As in former years, the origin of many of the outbreaks of hog cholera has been the feeding of hotel garbage. These garbage-fed hogs are always in large lots, and consequently the losses are heavy. The practice of feeding this material should be prohibited.

As I have many times previously reported, not only do these outbreaks create new hog cholera centres all over the Dominion, but the hogs are kept in indescribable filth, and fed on material containing every conceivable refuse, and in all stages of decomposition. The people who collect and feed this garbage are usually foreigners, Italians, Swedes, etc., or irresponsible persons who have no regard whatever for cleanliness or sanitary surroundings.

I have instructed all the Inspectors who have their headquarters in cities to make periodic inspections of all the garbage-fed hogs in their surrounding districts, to warn the owners as to the danger of feeding this material, and to inform them that the department may withhold compensation should their hogs develop hog cholera."

From report by D. S. TAMBLYN, D.V.S., *Inspector in Charge, Saskatchewan. (Appendix No. 5.)*

"The history of a number of outbreaks dealt with by our officers during the past year tends to prove that the infection was caused by the feeding of garbage collected from hotels. This, I may state, was very noticeable in infected areas in close proximity to towns. In the vicinity of Saskatoon, for instance, a number of swine owners were warned against the feeding of hogs on uncooked garbage or kitchen refuse, or on any raw animal flesh or similar food likely to convey the infection of hog cholera or swine plague, and were handed a copy of the regulations as well as the bulletin issued by this department in connection with this malady. Their rejecting of our officer's advice along these lines resulted in a second outbreak on their premises, with the result that they forfeited their rights to compensation.

I am also under the impression that the spreading of this disease was greatly due to neighbours visiting infected premises, where they had gone to sympathise with the owners, not thinking of the danger they were running into of carrying the infection to their own animals.

My notice has also been drawn to the fact that often a number of hogs are shipped to abattoirs for immediate slaughter. Many of these animals upon arrival are found to be in an unfit condition for slaughter; therefore, they are culled out and sold to anyone. In most instances, farmers purchase such animals and remove them to their farms. The point I wish to draw your attention to here is that the hogs so purchased are sometimes obtained from infected areas, so that there is a tendency to spread infection through this channel.

Another channel of infection which I consider of great danger is through the importation of live stock other than swine; owners of stock often bring along in their cars hog troughs, which in many cases may have been in use in infected areas.

Wheat, barley, hay, and litter accompanying such importations are also a source of danger. The origin of the Kerrobert and Luseland outbreaks I attribute to this source, as most of the settlers in that part of the province immigrated from the States of Minnesota and Iowa."

From report by J. C. HARGRAVE, D.V.S., *Inspector in Charge, Alberta. (Appendix No. 6.)*

"This disease of hogs has manifested itself to a greater extent than ever before in this province, and the investigation by inspectors indicates that the feeding of uncooked refuse and garbage from hotels and restaurants is responsible for these numerous outbreaks. Hog raisers, however, are commencing to realise the necessity of thoroughly cooking this garbage, and many have discontinued using it. Two cities within the province have taken steps to prevent its use by collecting all such refuse and disposing of it through their incinerators."

From report by W. W. STORK, V.S., *Inspector in Charge, Toronto. (Appendix No. 8.)*

"During the year, several serious cases of hog cholera developed in vicinity of Toronto, the trouble, we believe, emanating from hogs being fed on table refuse.

Every outbreak was energetically dealt with, special attention being given to rigid quarantine enforcement and disinfection of premises. We have impressed on owners the necessity of keeping premises in sanitary condition, and are doing our best to discourage the use of refuse food."

From report by M. V. GALLIVAN, V.S., *Inspector, Lethbridge. (Appendix No. 10.)*

"I have dealt with two outbreaks of this disease, one of which occurred on premises of Crowsnest Pass Lumber Company at Galloway, B.C., and the other on premises of J. B. Jett & Co., of Taber, Alberta. The origin of both these outbreaks was due to feeding uncooked garbage, and I found it necessary to slaughter one hundred and forty-six (146) hogs, all of them being sufficiently affected with disease to render carcases unfit for human food."

SHIPMENT OF LIVE STOCK TO NEW ZEALAND.

Westminster Chambers,
13, Victoria Street, London, S.W.

In continuation of my circular letter of the 4th January last on the above subject, I now beg to inform you that authority has been received from the New Zealand Government to amend the regulations governing the shipment to the Dominion of Cattle, Sheep and Pigs from Great Britain and Ireland, and in addition to the usual regulations as to "owner's declaration," etc., the following conditions will now apply :—

(1) For one month from the date of an outbreak of Foot-and-Mouth Disease no shipments may be made: provided, however, that an outbreak in one country shall not be held to prohibit shipments from the others, *e.g.*, and outbreak in England will not prevent shipments of cattle, etc., from Scotland or Ireland.

(2) After one month from the date of the last outbreak, cattle, sheep or pigs may be shipped at London, Liverpool or Glasgow to New Zealand from any part of the country, provided that, until three months have elapsed from the date of an outbreak, no shipment shall be made of cattle, sheep or pigs which have been, since the date of that outbreak, within a radius of 15 miles round the seat of the outbreak.

(3) For the six months following an outbreak of Foot-and-Mouth Disease the fodder accompanying live stock (including horses) to New Zealand must be the produce of a county where no Foot-and-Mouth Disease has occurred for six months prior to the date of shipment, must be sent *direct* from such county to the ship's side, and a sworn declaration as to its origin must be provided.—Yours faithfully,

ALEXANDER CRABB, F.R.C.V.S.,
1st November, 1915. Veterinary Officer.

DISEASES OF ANIMALS ACTS 1894 TO 1914, SUMMARY OF RETURNS.

Period.		Anthrax		Foot-and-Mouth Disease.		Glanders.†		Parasitic Mange. ‡		Sheep Scab.	Swine Fever.	
		Outbreaks (a)	Animals.	Outbreaks (a)	Animals.	Outbreaks (b)	Animals.	Outbreaks (b)	Animals.	(b)	Outbreaks (a)	Slaughtered. *
GT. BRITAIN. Week ended November 13		10	11	7	56			9	30	5	68	191
Corresponding week in	1914 ...	10	12			2	2	‡	‡	5	95	660
	1913 ...	15	15	1	23	2	3	28	45	4	55	632
	1912 ...	16	16			3	4	24	47	7	39	780
Total for 46 weeks, 1915		504	571	38	272	41	74	‖722	‖1559	174	3586	15366
Corresponding period in	1914 ...	641	702	24	124	90	271	‡1530	‡2642	170	3865	36708
	1913 ...	490	539	1	23	135	328	2151	4258	158	2215	28646
	1912 ...	675	757	92	639	161	296	2553	5396	224	2623	35889

‡ The Parasitic Mange Order of 1911 was suspended from 6th August, 1914, to 27th March, 1915, inclusive.

(a) Confirmed. (b) Reported by Local Authorities. † Counties affected, animals attacked : —
Board of Agriculture and Fisheries, Nov. 16, 1915 ‖ Figures for thirty-three weeks only.

IRELAND. Week ended Nov. 13		1	1	...	...	...	...	Outbreaks ...		7	4	8
Corresponding Week in	1914 ...	...	...	...	...	...	...	...		4	1	21
	1913 ...	...	...	...	...	...	...	...		12	2	1
	1912 ...	...	...	...	...	...	...	...		9	1	21
Total for 46 weeks, 1915 ...		2	2	...	...	1	3	65		362	224	1280
Corresponding period in	1914 ...	1	1	76	957	...	...	72		444	181	917
	1913 ...	...	...	...	...	1	1	111		448	128	830
	1912 ...	3	3	68	882	...	...	59		313	201	1631

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Nov. 15, 1915
NOTE.—The figures for the Current Year are approximate only. * As diseased or Exposed to Infection.